SEQUENCE LISTING

<110> Anderson, Christen M.
Clevenger, William

<120> COMPOSITIONS AND METHODS FOR REGULATING ENDOGENOUS INHIBITOR OF ATP SYNTHASE, INCLUDING TREATMENT FOR DIABETES

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<141> 2002-02-27

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<213> Rattus norvegicus

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cgagaagctg gtggggcctt cgggaaacga gagaaggctg aagaggatcg gtacttccga 180
gagaagacta gagagcagct ggctgccttg aagaagcacc atgaagatga gattgaccac 240
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tacctaaaga atagtgagca ttga 324

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<213> Rattus norvegicus

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Met Ala Gly Ser Ala Leu Ala Val Arg Ala Arg Leu Gly Val Trp Gly
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Met Arg Val Leu Gln Thr Arg Gly Phe Gly Ser Asp Ser Ser Glu Ser
20 25 30
Met Asp Ser Gly Ala Gly Ser Ile Arg Glu Ala Gly Gly Ala Phe Gly
35 40 45
Lys Arg Glu Lys Ala Glu Glu Asp Arg Tyr Phe Arg Glu Lys Thr Arg
50 55 60
Glu Gln Leu Ala Ala Leu Lys Lys His His Glu Asp Glu Ile Asp His
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85 90 95
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100 105

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caaacccgag gcttc 75

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<213> Mus musculus

<400> 16

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            20                  25                  30
Met Asp Thr Gly Ala Gly Ser Ile Arg Glu Ala Gly Gly Ala Phe Gly
        35                  40                  45
Lys Arg Glu Lys Ala Glu Glu Asp Arg Tyr Phe Arg Glu Lys Thr Lys
    50                  55                  60
Glu Gln Leu Ala Ala Leu Arg Lys His His Glu Asp Glu Ile Asp His
65                  70                  75                  80
His Ser Lys Glu Ile Glu Arg Leu Gln Lys Gln Ile Asp Arg His Lys
                85                  90                  95
Lys Lys Ile Gln Gln Leu Lys Asn Asn His
            100                 105
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<220>
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<210> 20
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<400> 20
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<400> 21
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<210> 22
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<220>
<223> Tat-derived cellular targeting sequence

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<220>
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<211> 25
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<220>
<223> Polypeptide consisting of amino acids 22-46 of the
mature form of rat IF1

<400> 25
Phe Gly Lys Arg Glu Lys Ala Glu Glu Asp Arg Tyr Phe Arg Glu Lys
1 5 10 15
Thr Arg Glu Gln Leu Ala Ala Leu Lys
20 25

<210> 26
<211> 17
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<213> Artificial Sequence

<220>
<223> Polypeptide consisting of amino acids 42-58 of the
mature form of rat IF1

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1 5 10 15
Lys

<210> 27
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<220>
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<400> 27
Arg Lys Lys Arg Arg Gln Arg
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<213> Rattus norvegicus

<400> 28
Met Ala Gly Ser Ala Leu Ala Val Arg Ala Arg Leu Gly Val Trp Gly
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Met Arg Val Leu Gln Thr Arg Gly Phe
20 25

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<220>
<223> Synthetic peptide fragment derived from rat IF1 sequence.

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Ser Ile Arg Glu Ala Gly Gly Ala Phe Gly Lys Arg Glu Lys Ala Glu
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Glu Asp Arg Tyr Phe Arg Glu Lys Thr Arg Glu Gln Leu Ala Ala Leu
20 25 30
Lys Lys

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Ser Ile Arg Glu Ala Gly Gly Ala Phe Gly Lys Arg Glu Lys Ala Glu
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Glu Asp Arg Tyr
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<213> Artificial Sequence

<220>
<223> Synthetic peptide fragment derived from rat IF1 sequence.

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Ile Arg Glu Ala Gly Gly Ala Phe Gly Lys Arg Glu Lys Ala Glu Glu
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Asp Arg Tyr Phe
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<400> 32
Arg Glu Ala Gly Gly Ala Phe Gly Lys Arg Glu Lys Ala Glu Glu Asp
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<400> 33
Glu Ala Gly Gly Ala Phe Gly Lys Arg Glu Lys Ala Glu Glu Asp Arg
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Tyr Phe Arg Glu
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1 5 10 15
Phe Arg Glu Lys
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<210> 35
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic peptide fragment derived from rat IF1 sequence.

<400> 35
Gly Gly Ala Phe Gly Lys Arg Glu Lys Ala Glu Glu Asp Arg Tyr Phe

1 5 10 15
Arg Glu Lys Thr
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<210> 36
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic peptide fragment derived from rat IF1 sequence.

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1 5 10 15
Glu Lys Thr Arg
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<210> 37
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic peptide fragment derived from rat IF1 sequence.

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1 5 10 15
Lys Thr Arg Glu
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<210> 38
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic peptide fragment derived from rat IF1 sequence.

<400> 38
Phe Gly Lys Arg Glu Lys Ala Glu Glu Asp Arg Tyr Phe Arg Glu Lys
1 5 10 15
Thr Arg Glu Gln
20

<210> 39

<211> 20
<212> PRT
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<223> Synthetic peptide fragment derived from rat IF1 sequence.

<400> 39
Gly Lys Arg Glu Lys Ala Glu Glu Asp Arg Tyr Phe Arg Glu Lys Thr
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Arg Glu Gln Leu
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<223> Synthetic peptide fragment derived from rat IF1 sequence.

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Lys Arg Glu Lys Ala Glu Glu Asp Arg Tyr Phe Arg Glu Lys Thr Arg
 1   5   10   15
Glu Gln Leu Ala
            20

<210> 41
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Arg Glu Lys Ala Glu Glu Asp Arg Tyr Phe Arg Glu Lys Thr Arg Glu
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Gln Leu Ala Ala
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<212> PRT
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<223> Synthetic peptide fragment derived from rat IF1

sequence.

<400> 42
Glu Lys Ala Glu Glu Asp Arg Tyr Phe Arg Glu Lys Thr Arg Glu Gln
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Leu Ala Ala Leu
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<210> 43
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic peptide fragment derived from rat IF1 sequence.

<400> 43
Lys Ala Glu Glu Asp Arg Tyr Phe Arg Glu Lys Thr Arg Glu Gln Leu
1 5 10 15
Ala Ala Leu Lys
20

<210> 44
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<212> PRT
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<220>
<223> Synthetic peptide fragment derived from rat IF1 sequence.

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Ala Leu Lys Lys
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<212> PRT
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Ser Ile Arg Glu Ala Gly Gly Ala Phe Gly Lys
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<220>
<223> Synthetic peptide fragment derived from rat IF1 sequence.

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Ser Ile Arg Glu Ala Gly Gly Ala Phe Gly Lys Arg
1 5 10

<210> 47
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic peptide fragment derived from rat IF1 sequence.

<400> 47
Ser Ile Arg Glu Ala Gly Gly Ala Phe Gly Lys Arg Glu
1 5 10

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<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic peptide fragment derived from rat IF1 sequence.

<400> 48
Ser Ile Arg Glu Ala Gly Gly Ala Phe Gly Lys Arg Glu Lys
1 5 10

<210> 49
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<400> 49
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1 5 10 15

<210> 50
<211> 16
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<220>
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<210> 51
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<213> Artificial Sequence

<220>
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<400> 51
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<210> 52
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic peptide fragment derived from rat IF1 sequence.

<400> 52
Ser Ile Arg Glu Ala Gly Gly Ala Phe Gly Lys Arg Glu Lys Ala Glu
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<210> 53
<211> 19
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic peptide fragment derived from rat IF1 sequence.

<400> 53
Ser Ile Arg Glu Ala Gly Gly Ala Phe Gly Lys Arg Glu Lys Ala Glu
1 5 10 15
Glu Asp Arg

<210> 54
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic peptide fragment derived from rat IF1 sequence.

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Glu Asp Arg Tyr
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<210> 55
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
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<400> 55
Ser Ile Arg Glu Ala Gly Gly Ala Phe Gly Lys Arg Glu Lys Ala Glu
1 5 10 15
Glu Asp Arg Tyr Phe
20

<210> 56
<211> 22
<212> PRT
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<220>
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Glu Asp Arg Tyr Phe Arg
            20
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Glu Asp Arg Tyr Phe Arg Glu
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<400> 58
Ser Ile Arg Glu Ala Gly Gly Ala Phe Gly Lys Arg Glu Lys Ala Glu
 1   5   10   15
Glu Asp Arg Tyr Phe Arg Glu Lys
            20

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<212> PRT
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<220>
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<400> 59
Ser Ile Arg Glu Ala Gly Gly Ala Phe Gly Lys Arg Glu Lys Ala Glu
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Glu Asp Arg Tyr Phe Arg Glu Lys Thr
            20   25

<210> 60

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<223> Synthetic peptide fragment derived from rat IF1
sequence.

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Ser Ile Arg Glu Ala Gly Gly Ala Phe Gly Lys Arg Glu Lys Ala Glu
1 5 10 15
Glu Asp Arg Tyr Phe Arg Glu Lys Thr Arg
20 25

<210> 61
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<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic peptide fragment derived from rat IF1
sequence.

<400> 61
Ser Ile Arg Glu Ala Gly Gly Ala Phe Gly Lys Arg Glu Lys Ala Glu
1 5 10 15
Glu Asp Arg Tyr Phe Arg Glu Lys Thr Arg Glu
20 25

<210> 62
<211> 28
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic peptide fragment derived from rat IF1
sequence.

<400> 62
Ser Ile Arg Glu Ala Gly Gly Ala Phe Gly Lys Arg Glu Lys Ala Glu
1 5 10 15
Glu Asp Arg Tyr Phe Arg Glu Lys Thr Arg Glu Gln
20 25

<210> 63
<211> 29
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic peptide fragment derived from rat IF1

sequence.

<400> 63
Ser Ile Arg Glu Ala Gly Gly Ala Phe Gly Lys Arg Glu Lys Ala Glu
1 5 10 15
Glu Asp Arg Tyr Phe Arg Glu Lys Thr Arg Glu Gln Leu
20 25

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<211> 30
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<213> Artificial Sequence

<220>
<223> Synthetic peptide fragment derived from rat IF1 sequence.

<400> 64
Ser Ile Arg Glu Ala Gly Gly Ala Phe Gly Lys Arg Glu Lys Ala Glu
1 5 10 15
Glu Asp Arg Tyr Phe Arg Glu Lys Thr Arg Glu Gln Leu Ala
20 25 30

<210> 65
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<220>
<223> Synthetic peptide fragment derived from rat IF1 sequence.

<400> 65
Ser Ile Arg Glu Ala Gly Gly Ala Phe Gly Lys Arg Glu Lys Ala Glu
1 5 10 15
Glu Asp Arg Tyr Phe Arg Glu Lys Thr Arg Glu Gln Leu Ala Ala
20 25 30

<210> 66
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<213> Artificial Sequence

<220>
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<400> 66
Ser Ile Arg Glu Ala Gly Gly Ala Phe Gly Lys Arg Glu Lys Ala Glu
1 5 10 15
Glu Asp Arg Tyr Phe Arg Glu Lys Thr Arg Glu Gln Leu Ala Ala Leu

20 25 30

<210> 67
<211> 33
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic peptide fragment derived from rat IF1 sequence.

<400> 67
Ser Ile Arg Glu Ala Gly Gly Ala Phe Gly Lys Arg Glu Lys Ala Glu
1 5 10 15
Glu Asp Arg Tyr Phe Arg Glu Lys Thr Arg Glu Gln Leu Ala Ala Leu
20 25 30
Lys

<210> 68
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<213> Artificial Sequence

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<400> 68
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Gly Gly Gln Gln Met Gly Arg Asp Leu Tyr Asp Asp Asp Asp Lys Asp
20 25 30
Pro Ser Ser
35

<210> 69
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> Organellar targeting sequence

<400> 69
Met Ala Gly Ser Ala Leu Ala Val Arg Ala Arg Leu Gly Val Trp Gly
1 5 10 15
Met Arg Val Leu Gln Thr Arg Gly Phe
20 25

<210> 70

<211> 13
<212> PRT
<213> Artificial Sequence

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<223> Cellular transport sequence

<400> 70
Gly Tyr Gly Arg Lys Lys Arg Arg Gln Arg Arg Arg Gly
 1   5   10

<210> 71
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<220>
<223> Fusion protein

<400> 71
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Gly Gly Gln Gln Met Gly Arg Asp Leu Tyr Asp Asp Asp Asp Lys Asp
            20   25   30
Pro Ser Ser Gly Tyr Gly Arg Lys Lys Arg Arg Gln Arg Arg Arg Gly
        35   40   45
Met Ala Gly Ser Ala Leu Ala Val Arg Ala Arg Leu Gly Val Trp Gly
    50   55   60
Met Arg Val Leu Gln Thr Arg Gly Phe Ser Ile Arg Glu Ala Gly Gly
65   70   75   80
Ala Phe Gly Lys Arg Glu Lys Ala Glu Glu Asp Arg Tyr Phe Arg Glu
                85   90   95
Lys Thr Arg Glu Gln Leu Ala Ala Leu Lys Lys
            100   105

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<211> 321
<212> DNA
<213> Artificial Sequence

<220>
<223> Nucleotide that codes for fusion protein.

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